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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,597	05/29/2001	Daniel Abugov	19111.0037	4131
23517	7590	11/19/2003	EXAMINER	
SWIDLER BERLIN SHEREFF FRIEDMAN, LLP 3000 K STREET, NW BOX 1P WASHINGTON, DC 20007			ROBINSON, GRETA LEE	
			ART UNIT	PAPER NUMBER
			2177	3
DATE MAILED: 11/19/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/865,597

**Applicant(s)**

ABUGOV ET AL.

**Examiner**

Greta L. Robinson

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --.

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 7-21 is/are rejected.
- 7) ☒ Claim(s) 2-6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-21 re pending in the present application.

#### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on October 30, 2001 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner, note copy of signed IDS attached to this office action.

#### ***Drawings***

3. The drawings are objected to because descriptive textual labels are needed for the following elements figure 1 elements (a), (b), and (c), and figure 6 elements (a) through (g). Note 37 CFR 1.84(o). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
4. The drawings are objected to because figures 1 and 6 contain partial views. Note 37 CFR 1.84 (h). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

#### ***Claim Objections***

5. Claim 19 is objected to because of the following informalities: a comma “,” is needed after the word “tile” for clear understanding of the claim language. Appropriate correction is required.
6. Claims 2-6 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only and cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits:

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1, 7-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the following limitation is vague: “**determining** a distribution of objects with respect to the tiles ... **comparing** the distribution of objects with respect to the tiles ...” [note claim 1 lines 1-6]. The claim does not state how a distribution of objects are determined, and it is not clear as to what the distribution of objects with respect to the tiles are compared against to identify objects. Also note the limitation “comparing” at line 10, it is not clear as to how the comparison process takes place. The

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examiner notes that the specification makes note of various indexing schemes, but the claim does not appear to state an index or indexing method. Claims 7-19 are rejected based on dependency. Claims 20 and 21 parallel claim 1; therefore they are rejected under the same rationale.

Claim 17 recites the limitation "the data" in line 1 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 18 recites the limitation "the secondary filter" in line 1 of the claim. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1 and 7-21 are rejected under 35 U.S.C. 102(b) as being anticipated by *Spatial Quadtree Indexing*, Oracle Spatial User's Guide and Reference for Oracle Release 8.1.6.

Regarding claim 1, the *Spatial Quadtree Indexing* reference teaches a method for determining positional relationships among objects represented in a database, the method comprising:

defining a plurality of tiles [note: page 1-1 ];

determining a distribution of objects with respect to the tiles [note: page 1-1];

comparing the distribution of objects with respect to the tiles to identify objects fulfilling a primary filter condition comprising an interaction of the objects with respect to the tiles [note: page 1-3 note primary filter stage];

identifying objects that fulfill a secondary filter condition, comprising an interaction of geometries of the objects, by analyzing the distribution of objects that fulfill the primary filter condition with respect to the tiles [note: page 1-3 through 1-6 ]; and

identifying objects that fulfill the secondary filter condition by comparing geometries of objects that fulfill the primary filter condition that the analysis does not identify as fulfilling the secondary filter condition [note: page 1-3 through 1-6, figures 1-1 through 1-6].

11. Regarding claims 7, 8 and 9:

(claim 7) wherein the tiles all have at least one of the same size and the same shape ... (claim 8) wherein the tiles are rectangular ... (claim 9) wherein the tiles have different sizes [note: page 1-1 "Spatial can use either fixed-size or variable-sized tiles to cover a geometry", also note section 1.3 page 1-3, figure 1-3, figure 1-5].

12. Regarding claims 10, 11 and 13-15:

wherein the database comprises geometries of the objects on a surface or in a three-dimensional space ... wherein the database stores the exact geometries and

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approximations of the geometries ... wherein the geometries comprise linestrings and polygons and the method determines positional relationships among the polygons ...

[note: user-selectable parameters page 1-1, also note page 1-9 through 1-12].

13. Regarding claims 12, and 16-19:

wherein geometries comprise polygons and the method determines positional relationships among polygons [note: page 1-1, and figures 1-1 through 1-6].

14. The limitations of claims 20 and 21 parallel method claim 1; therefore they are rejected under the same rationale.

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Smartt** US Patent 5,963,956

**Hougaard et al.** US Patent 6,216,130 B1

**Roden et al.** US Patent 5,251,296

**Baclawski** US Patent 6,463,433 B1

**Megiddo et al.** US Patent 5,953,531

**McGuinness** US Patent 6,104,416

**Baltaretu et al.** US Patent 6,437,780 B1

**Smartt** US Patent 6,470,287 B1

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greta L. Robinson whose telephone number is (703) 308-7565. The examiner can normally be reached on Mon.-Fri. 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on (703) 305-9790. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.



**GRETA ROBINSON**  
**PRIMARY EXAMINER**

Greta Robinson  
Primary Examiner  
November 14, 2003